

Title (en)  
Organic semiconductor sensor device

Title (de)  
Organischer Halbleitersensor

Title (fr)  
Capteur à semi-conducteur organique

Publication  
**EP 1411552 A2 20040421 (EN)**

Application  
**EP 03255931 A 20030923**

Priority  
US 25431102 A 20020925

Abstract (en)  
Sensor cells are arranged in an array in an organic semiconductor layer. Row and column select circuitry addresses the cells of the array one cell at a time to determine the presence of an object, such as a fingerprint ridge or valley, contacting or proximate to a sensing surface above each cell. Control circuitry can be provided in a companion silicon chip or in a second layer of organic semiconductor material to communicate with the array and an associated system processor. The array of sensor cells can be fabricated using a flexible polymer substrate that is peeled off and disposed of after contacts have been patterned on the organic semiconductor layer. The organic semiconductor layer can be used with a superimposed reactive interface layer to detect specific chemical substances in a test medium.

IPC 1-7  
**H01L 27/00**; **G06K 9/00**

IPC 8 full level  
**G01B 7/28** (2006.01); **G01N 27/327** (2006.01); **G01L 1/14** (2006.01); **G01N 27/414** (2006.01); **G01N 33/487** (2006.01); **G06K 9/00** (2006.01); **G06T 1/00** (2006.01); **H01L 27/30** (2006.01); **H01L 51/05** (2006.01)

CPC (source: EP US)  
**G01L 1/146** (2013.01 - EP US); **G01L 1/148** (2013.01 - EP US); **G01N 27/4145** (2013.01 - EP US); **G01N 27/4148** (2013.01 - EP US); **G06V 40/1306** (2022.01 - EP US); **H10K 39/32** (2023.02 - EP US); **H10K 10/46** (2023.02 - EP US)

Citation (applicant)  
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Designated contracting state (EPC)  
DE FR GB IT

Designated extension state (EPC)  
AL LT LV MK

DOCDB simple family (publication)  
**US 2004056245 A1 20040325**; **US 6852996 B2 20050208**; EP 1411552 A2 20040421; EP 1411552 A3 20080702; EP 1411552 B1 20140416; JP 2004125791 A 20040422; JP 4426806 B2 20100303; US 2005110055 A1 20050526; US 2007029583 A1 20070208; US 7141839 B2 20061128; US 8569809 B2 20131029

DOCDB simple family (application)  
**US 25431102 A 20020925**; EP 03255931 A 20030923; JP 2003334020 A 20030925; US 2106304 A 20041222; US 58058206 A 20061013